

Plekhhb2 Cas9-KO Strategy

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Design Date: 2020-9-14

Project Overview

Project Name

Plekhhb2

Project type

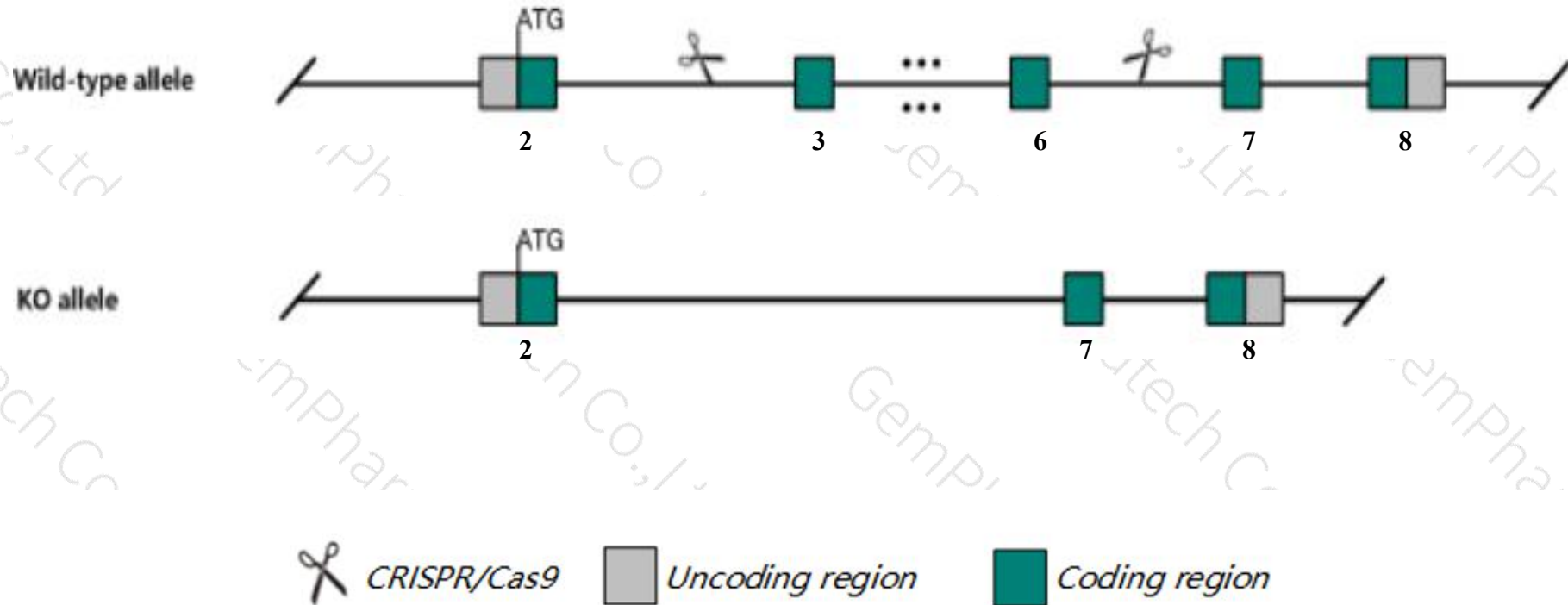
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Plekhhb2* gene. The schematic diagram is as follows:



- The *Plekhhb2* gene has 4 transcripts. According to the structure of *Plekhhb2* gene, exon3-exon6 of *Plekhhb2*-201(ENSMUST00000027297.10) transcript is recommended as the knockout region. The region contains 386bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Plekhhb2* gene. The brief process is as follows: CRISPR/Cas9 system were microinjected into the fertilized eggs of C57BL/6JGpt mice. Fertilized eggs were transplanted to obtain positive F0 mice which were confirmed by PCR and sequencing. A stable F1 generation mouse model was obtained by mating positive F0 generation mice with C57BL/6JGpt mice.

- The *Plekhhb2* gene is located on the Chr1. If the knockout mice are crossed with other mice strains to obtain double gene positive homozygous mouse offspring, please avoid the two genes on the same chromosome.
- This strategy is designed based on genetic information in existing databases. Due to the complexity of biological processes, all risk of the gene knockout on gene transcription, RNA splicing and protein translation cannot be predicted at the existing technology level.

Gene information (NCBI)

Plekhhb2 pleckstrin homology domain containing, family B (evectins) member 2 [Mus musculus (house mouse)]

Gene ID: 226971, updated on 13-Mar-2020

Summary



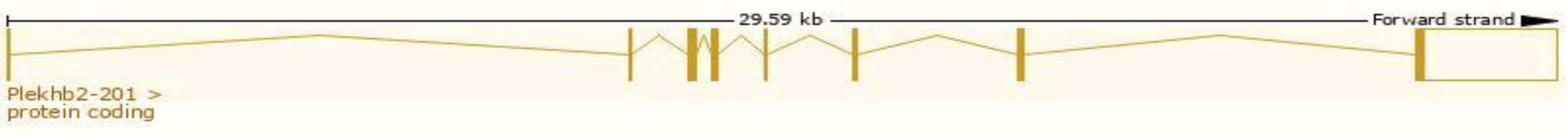
Official Symbol	Plekhhb2 provided by MGI
Official Full Name	pleckstrin homology domain containing, family B (evectins) member 2 provided by MGI
Primary source	MGI:MGI:2385825
See related	Ensembl:ENSMUSG00000026123
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	2310009M15Rik, AU018239, Evt2, Phdc, evt-2
Expression	Broad expression in colon adult (RPKM 50.2), large intestine adult (RPKM 42.4) and 23 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

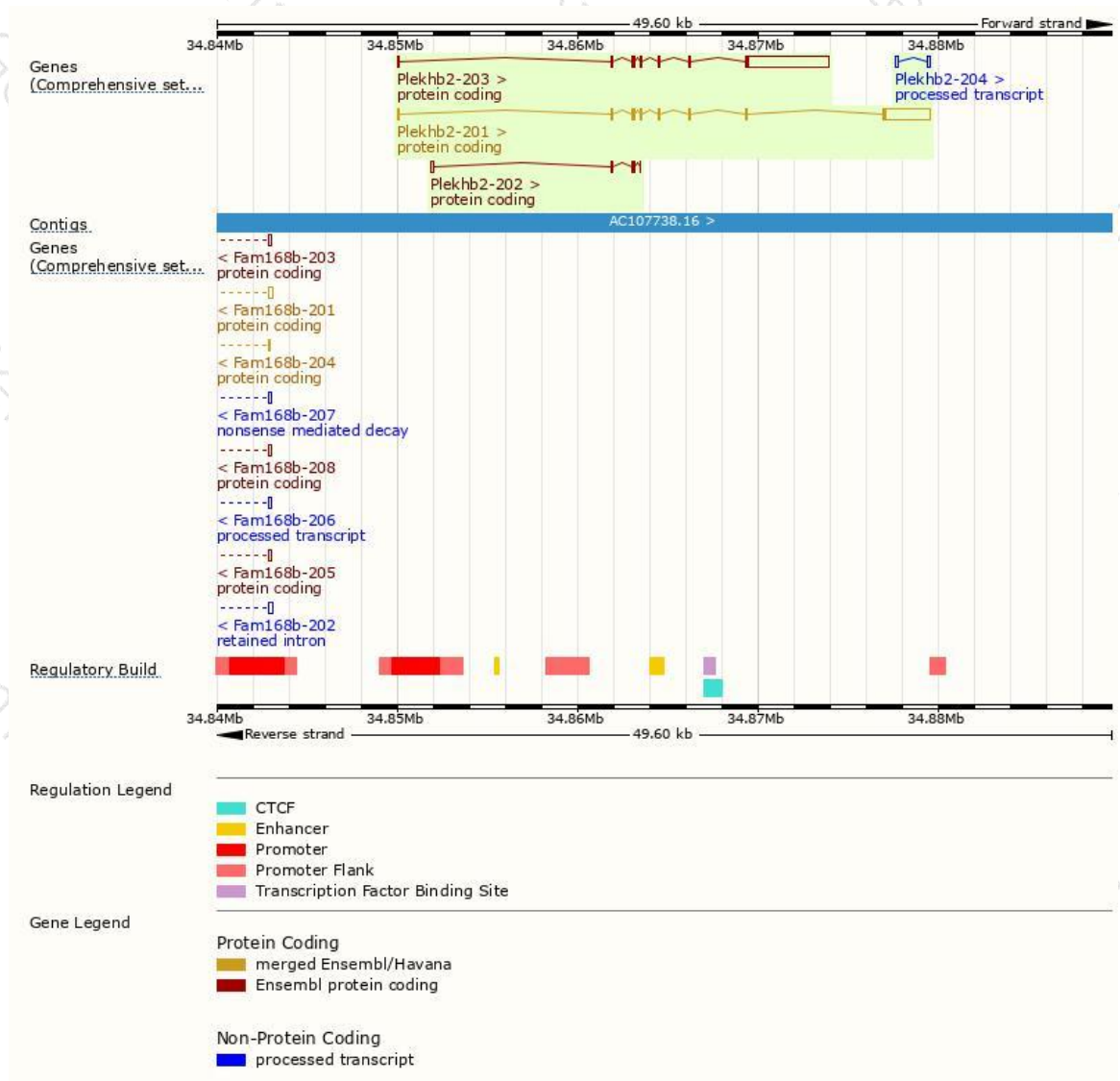
The gene has 4 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Plekhab2-203	ENSMUST00000156687.7	5176	204aa	Protein coding	CCDS78558	Q3UFC9 Q9QZC7	TSL:1 GENCODE basic
Plekhab2-201	ENSMUST00000027297.10	3279	221aa	Protein coding	CCDS14874	Q9QZC7	TSL:1 GENCODE basic APPRIS P1
Plekhab2-202	ENSMUST00000152654.2	344	65aa	Protein coding	-	D3Z3L2	CDS 3' incomplete TSL:5
Plekhab2-204	ENSMUST00000191722.1	302	No protein	Processed transcript	-	-	TSL:5

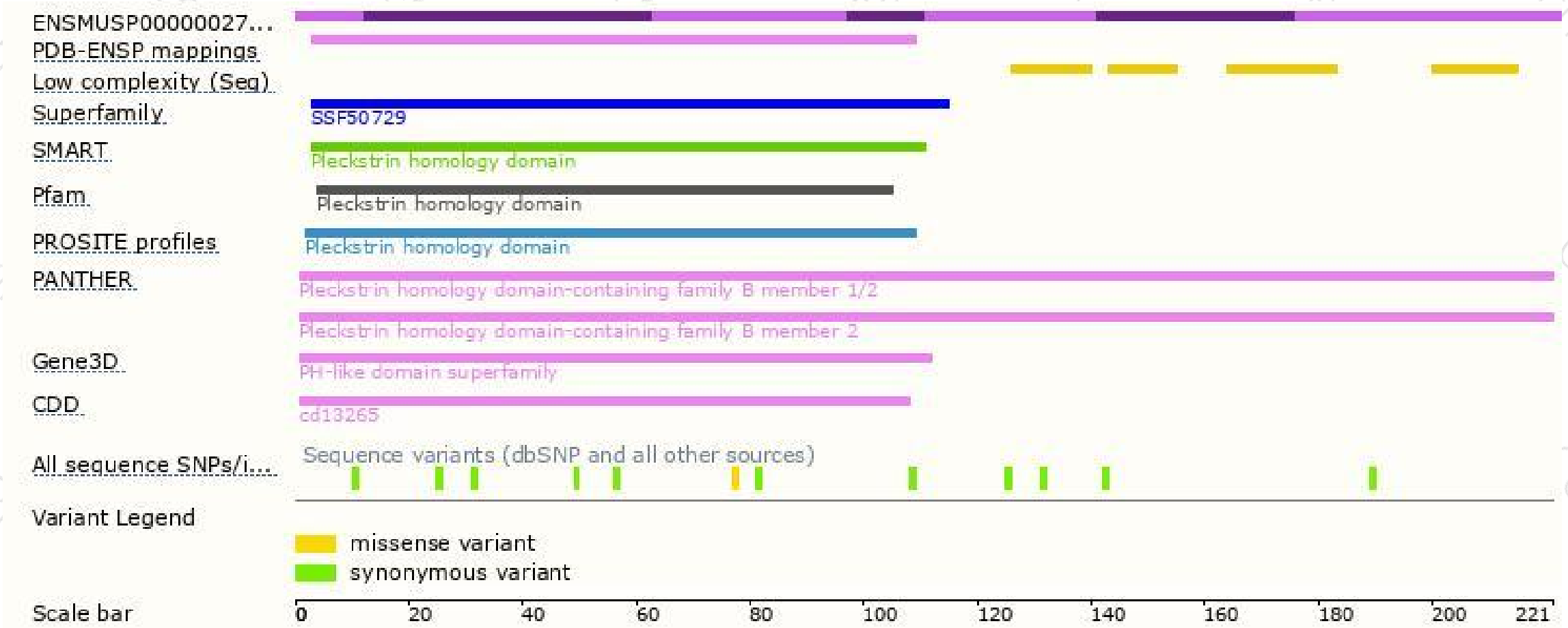
The strategy is based on the design of *Plekhab2-201* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



If you have any questions, you are welcome to inquire.

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